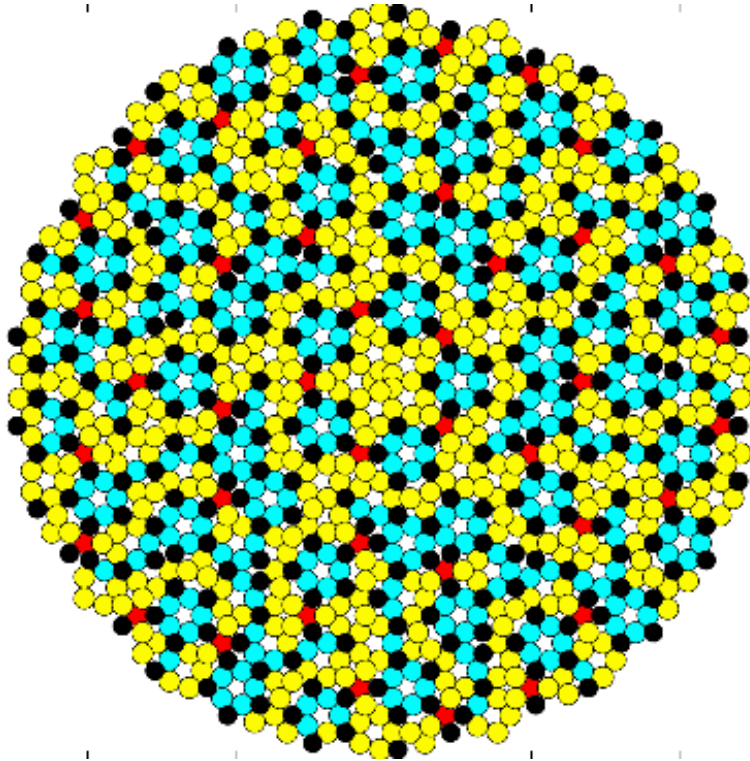


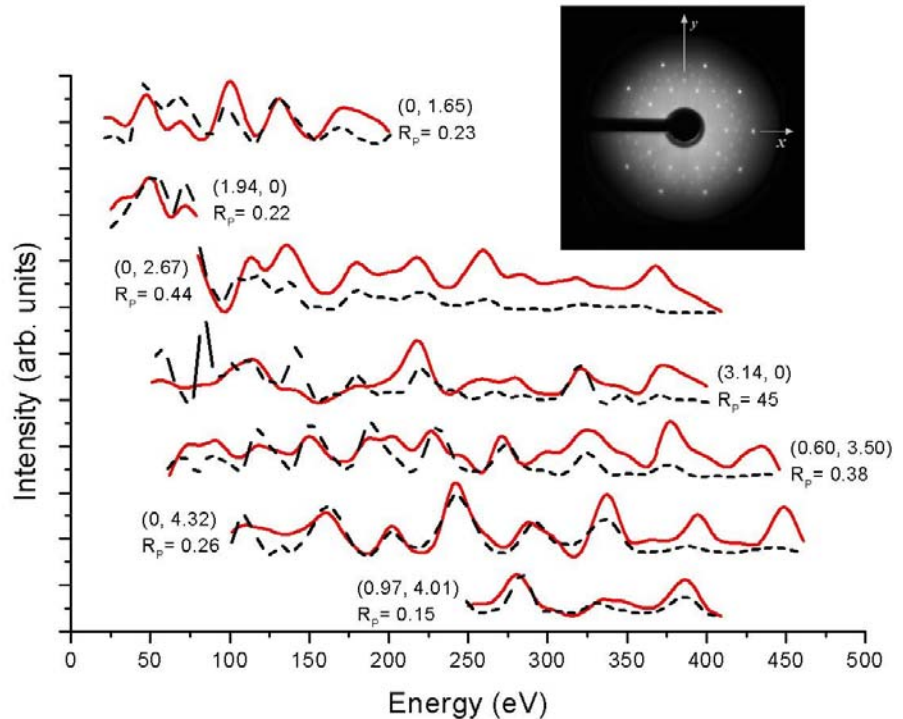
# Studies of Weakly Adsorbed Layers

Renee D. Diehl, Penn State University, DMR-0208520

Quasicrystal surfaces offer the unique opportunity to study aperiodicity on the properties of adsorbed thin films. But first the substrate structure needs to be determined.



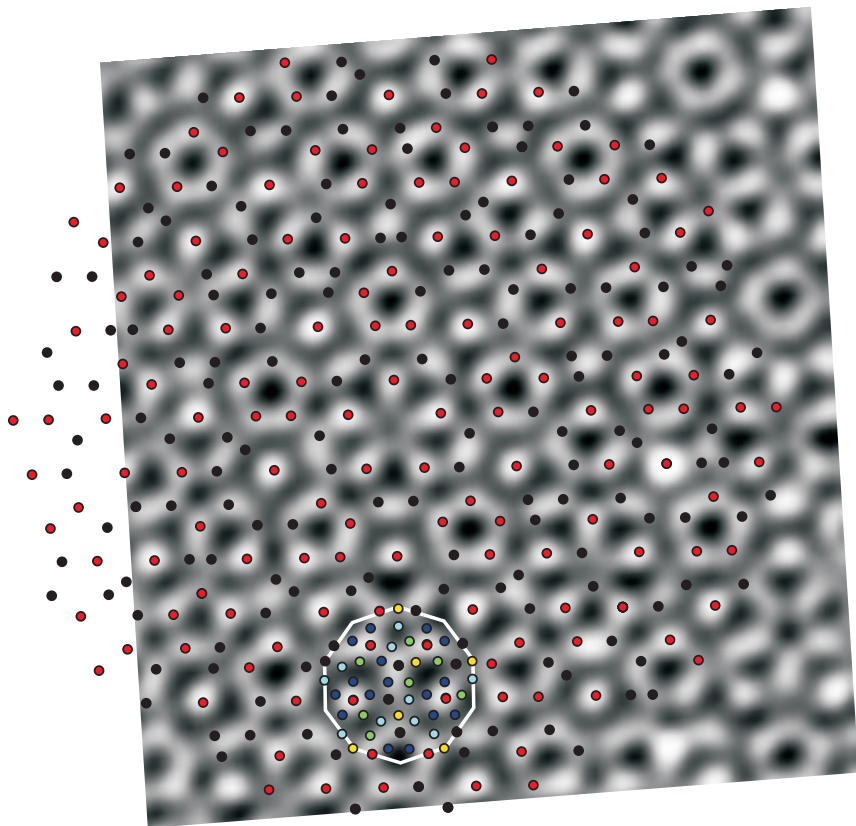
Structure model for Al-Ni-Co. Note aperiodicity and 5-fold symmetry.



Low-energy electron diffraction structure determination for quasicrystalline Al-Ni-Co. This is the first atomistic structure determination for a quasicrystal surface.

# Studies of Weakly Adsorbed Layers

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STM image with structure model superimposed. Only the transition metal atoms show up as protrusions in STM.



## Educational:

**4 undergrads** (James Marek, Scott Thaller, Alan Szmodis, Tim Madden)

**4 grad students** (Nicola Ferralis, Joseph Smerdon, Katariina Pussi, Nesrin Cetiner)

**1 post-doc** (FengMing Pan)

**1 4-year college faculty** (Tariq Gilani)

**Outreach Activities:** WISE CAMP residential week for high school girls (shown above).